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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,388

10/06/2005

Shiro Torizuka

2005-0640A

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EXAMINER

DELISLE, ROBERTA S

ART UNIT

PAPER NUMBER

3677

MAIL DATE

DELIVERY MODE

07/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,388	Applicant(s) TORIZUKA ET AL.	
	Examiner ROBERTA DELISLE	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5/26/09 have been considered but are moot in view of the new ground(s) of rejection.
2. **Claim Status:**
 - a. Claim 1 Currently Amended
3. **Prior Art References:**
 - b. Yoshino US 5,419,948
 - c. Saito et al. JP 2002 285278

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino et al. (US 5,419,948) in view of Saito et al. (JP 2002 285278).

**Regarding Claim 1, Yoshino discloses:
Reference figures 1-6, for example**

(Currently Amended)

A screw or a tapping screw made of steel (**Abstract**) with [...]

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and a nitride layer **(20, 21)** in a surface part, wherein the nitride layer in the surface part has a 100 μm or less thickness **(Column 2 Lines 56-60, “15 to 30 μm ” meets the “or less” limitation)**, hardness of the nitride layer of the surface part is **563 ~~560~~** or more in Vickers hardness **(Column 2 Lines 56-60, “1,250-1,350 Hv” meets the “or more” limitation)**, [...], and hardness of the core part is **199-345 ~~199-450~~** in Vickers hardness **(Column 5 Lines 39-42, “250-260 Hv” is in the range)**.

Yoshino discloses a screw with a nitride layer but does not disclose an ultra fine structures of ferrite grains being 1 μm or less or 3 μm or less.

Saito teaches:

... an ultra fine structure of ferrite grains having a **1 ~~3~~** μm or less average grain size

(Paragraph [0005], “1 μm or less”) ...

...ferrite in the vicinity of the nitride layer has a 1 μm or less average grain size

(Paragraph [0005], “1 μm or less”), ferrite of a core part has a 3 μm or less

(Paragraph [0005], “1 μm or less” meets the “or less” limitation) ...

Yoshino discloses a screw with a nitride layer. Saito teaches a high strength steel where the grains of ferrite are 1 μm or less. These fine crystals improve the strength of the steel. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Yoshino with a material made with ferrite having grain size 1 μm or less as taught by Saito to improve the strength of the screw.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERTA DELISLE ("Bobbi") whose telephone number is (571) 270-3746. The examiner can normally be reached on M-F 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor D. Batson can be reached on (571) 272- 6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor Batson/
Victor D. Batson
Supervisory Patent Examiner
Art Unit 3677

rsd